

PATENT COOPERATION T R A C T

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From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

To:

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NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL PRELIMINARY
EXAMINATION REPORT

(PCT Rule 71.1)

- 8. Juni 2004

Frist / Due Date:

Date of mailing
(day/month/year)

07.06.2004

Applicant's or agent's file reference
P 26038

IMPORTANT NOTIFICATION

International application No.
PCT/IB 03/1243

International filing date (day/month/year)
03.03.2003

Priority date (day/month/year)
15.04.2002

Applicant
STUDIO MODERNA SA et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions are patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the international preliminary examining authority:



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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 08 JUN 2004

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Applicant's or agent's file reference P 26038	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/B 03/01243	International filing date (day/month/year) 03.03.2003	Priority date (day/month/year) 15.04.2002
International Patent Classification (IPC) or both national classification and IPC B62K15/00		
Applicant STUDIO MODERNA SA et al.		

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 5 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of 8 sheets.

- This report contains indications relating to the following items:
 - ☒ Basis of the opinion
 - ☐ Priority
 - ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - ☐ Lack of unity of invention
 - ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - ☐ Certain documents cited
 - ☐ Certain defects in the international application
 - ☐ Certain observations on the international application

Date of submission of the demand 24.09.2003	Date of completion of this report 07.06.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Avisse, M Telephone No. +49 89 2399-7214 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/IB 03/01243**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-8 as originally filed

Claims, Numbers

1-19 filed with telefax on 25.05.2004

Drawings, Sheets

1/4-4/4 received on 04.05.2004 with letter of 29.04.2004

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/IB 03/01243**

5. ☒ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

see separate sheet

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-16
	No: Claims	
Inventive step (IS)	Yes: Claims	1-16
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-16
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item I

1. The amendments filed on 25.05.2004 introduce subject-matter which extends beyond the content of the application as filed, contrary to Article 34 (2) (b) PCT.

In the amended claims 17-19, features have been deleted, which are presented as essential in the disclosure of the invention in the light of the technical problem which it seeks to solve. These deletions introduce subject-matter which extends beyond the content of the application as filed, contrary to Article 34(2)(b) PCT.

2. **As a consequence, the present international preliminary report will be based on the amended claims 1-16 only.**

Re Item V

The subject-matter of claims 1-16 appears to satisfy the criteria of novelty, inventive step and industrial applicability.

3. **Claim 1**

- 3.1 The document DE-A-43 12 832 (=D1) is regarded as the closest prior art to the subject-matter of claim 1 and discloses (see D1: abstract; column 2, line 56 - column 3, line 9; figures 1-3) a folding bicycle from which the subject-matter of claim 1 differs in that:

- the down tube is made of two tubes having a gap therebetween; and
- said front-wheel assembly is foldable by rotating the front-wheel fork by 180 degrees and folding it toward the down tube to thereby partially insert said front wheel into said gap.

The subject-matter of claim 1 is therefore novel (Article 33(2) PCT).

- 3.2 The problem to be solved by the present invention may therefore be regarded as to provide an alternative construction to known foldable bicycles.

The constructive solution disclosed in claim 1 of the present application is not disclosed in its present form in any of the documents cited in the search report. Nor is there a hint in D1 or in the other documents cited in the search report to modify the

bicycle known from D1 to arrive to the bicycle of the present invention.

Thus, the subject-matter of claim 1 involves an inventive step (Article 33(3) PCT).

4. Claim 2-16

Claims 2-16 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

5. Further remarks

5.1 Independent claim 1 is not in the two-part form contrary to the requirements of Rule 6.3(b) PCT.

5.2 Contrary to the requirement of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the document D1 has not been mentioned in the description; this document has not been identified therein either.

Claims

1. A folding bicycle comprising

(A) a frame (1) which has a top tube, a head tube, a down tube (2), and a seat tube,

(B) a foldable front-wheel assembly which has a front wheel fork (4) rotatably attached to the frame (1), and a front wheel (3) mounted to the front wheel fork (4), and

(C) a rear-wheel assembly which has chainstays (26) and a rear wheel (18) mounted to the chainstays (26),
wherein

(D) the down tube (2) is made of two tubes having a gap (2') therebetween, and wherein

the front-wheel assembly is foldable by rotating the front wheel fork (4) by 180 degrees and folding it toward the down tube (2) to thereby partially insert the front wheel (3) into the said gap (2').

2. The folding bicycle according to claim 1, characterized in that the rear-wheel assembly is foldable in that the chainstays (26) together with the rear wheel (18) can be folded around a pivot (19).

3. The folding bicycle according to claim 1, characterized in that it comprises a handlebar foldable towards the frame.

4. The folding bicycle of claim 1, characterized in that the pivot (19) has a shaft (22) connected to two coaxial sprockets (23, 24), wherein front and rear chains (25, 31) are provided connecting a chain ring (15) provided on the frame (1) and a rear sprocket (32), respectively, with the two coaxial sprockets (23, 24).

5. The folding bicycle according to claim 4, characterized by comprising a bracket (20) which extends from the frame (1) towards the rear wheel (18) and which holds the shaft (22).
6. The folding bicycle of one of claims 1, characterized in that the front wheel fork (4) is equipped with two swing-arms (7) which hold the front wheel (3), and one end part of which is pivotably coupled to the front wheel fork (4) and the other end part of which is coupled to a stirrup (8) which in turn is connected to the front wheel fork (4) and which encloses a portion of the front wheel (3).
7. The folding bicycle of claim 6, characterized by further comprising springs (14) arranged between the swing arms (17) and the front wheel fork (4).
8. The folding bicycle of claim 6 or 7, characterized in that the other end parts of the swing arms (7) comprise shock absorbers (14').
9. The folding bicycle of claim 8, characterized in that the shock absorbers (14') are of the elastomer, the hydraulic or the pneumatic type.
10. The folding bicycle of claim 1, characterized in that the chainstays (26) comprise a locking device.
11. The folding bicycle of claim 10, characterized in that the locking device comprises a pin.
12. The folding bicycle of claim 10 or 11, characterized in that the chainstays (6) comprise a shock absorber and/or a spring.

13. The folding bicycle of one of claims 1 to 12, characterized by further comprising an electric motor or an internal combustion motor.

14. The folding bicycle of one of claims 1 to 13, characterized by further comprising a second seat support (38) attached to the frame (1) and located behind a seat attached to the frame (1).

15. The folding bicycle of one of claims 1 to 14, characterized by further comprising cranks (16) equipped with folding pedals (11).

16. The folding bicycle of claim 2, characterized by further comprising seatstays (28) which connect the chainstays (26) to the frame (1) and which are releasably connected to a strut (29) extending from the frame (1).

17. A folding bicycle comprising

(A) a non-foldable, rigid frame (1) composed of a top tube, head tube, down tube(s) (2), and seat tube,

(B) a front-wheel assembly that rotates and folds such that, when in a folded position, the front wheel (3) may be inserted in a gap (2') between two (2) down tubes, and

(c) a handlebar (34) that can rotate backward and downward toward the frame.

18. A folding bicycle comprising

(A) a non-foldable, rigid frame (1) composed of a top tube, head tube, down tube(s) (2), and seat tube, and

(B) a front-wheel assembly that rotates and folds such that, when in a folded position, the front wheel (3) may be inserted in a gap (2') between two (2) down tubes.

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19. A folding bicycle comprising

(A) a non-foldable, rigid frame (1) composed of a top tube, head tube, down tube(s) (2), and seat tube, and

(B) a front-wheel assembly that rotates and folds.

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Empf.nr.:403 P.005

AMENDED SHEET

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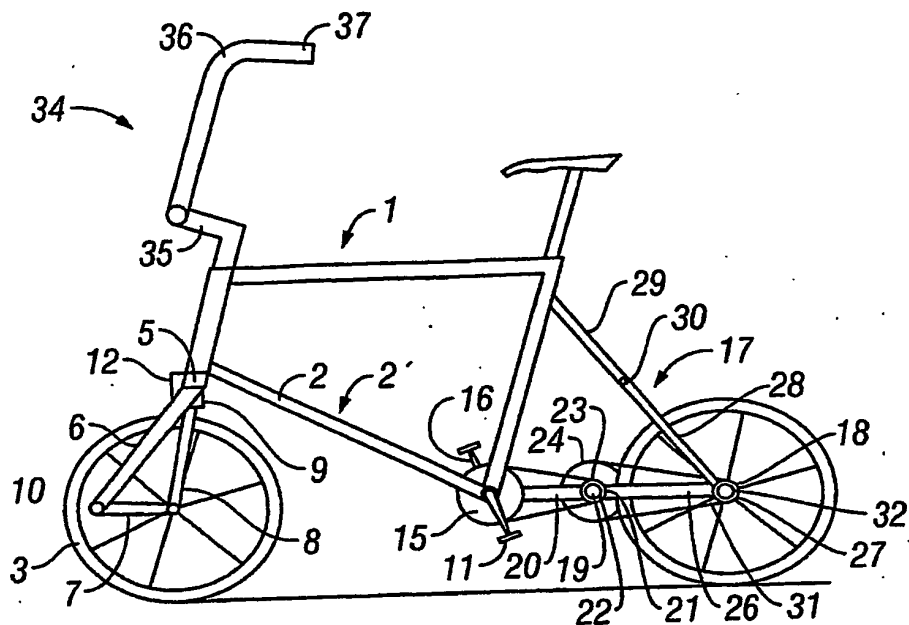


FIG. 1

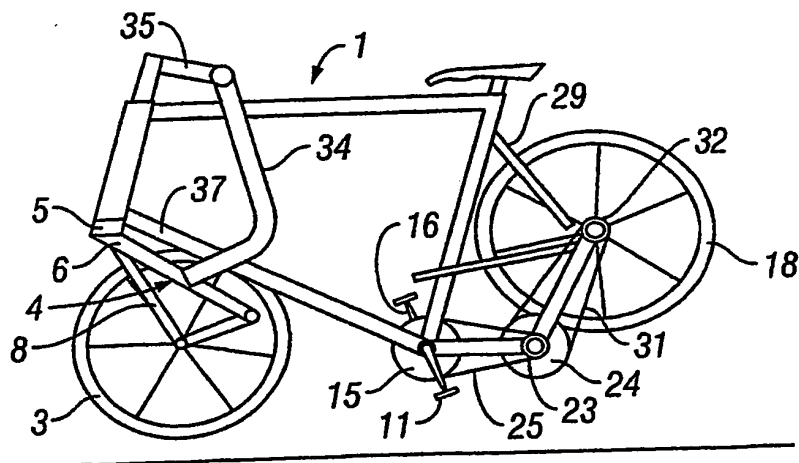


FIG. 2

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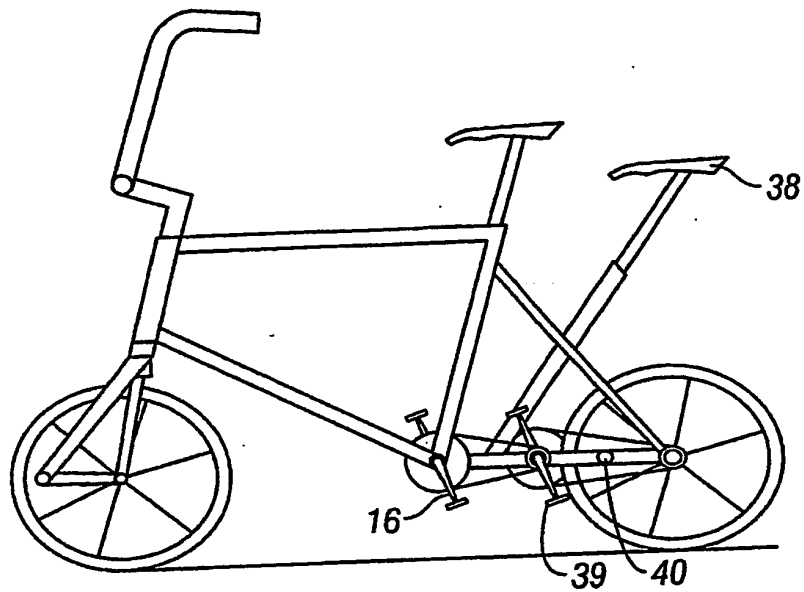


FIG. 3

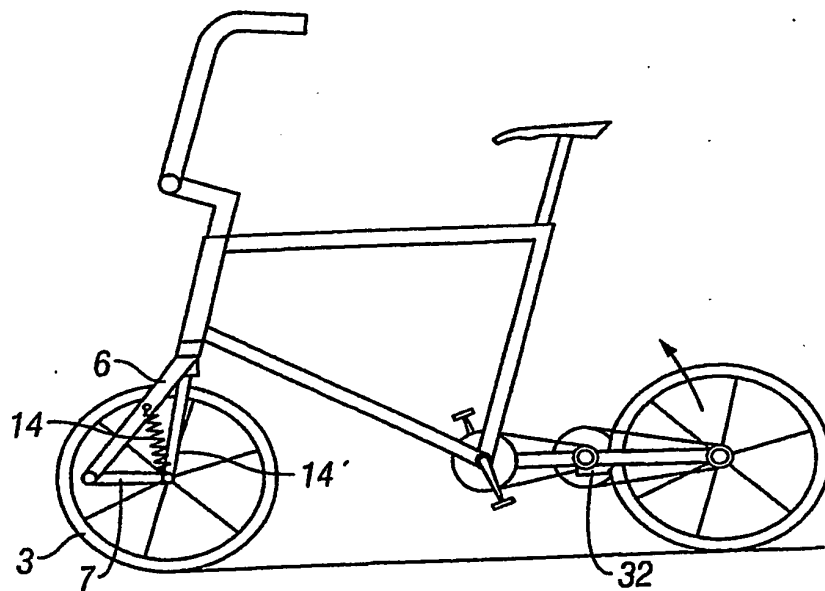


FIG. 4

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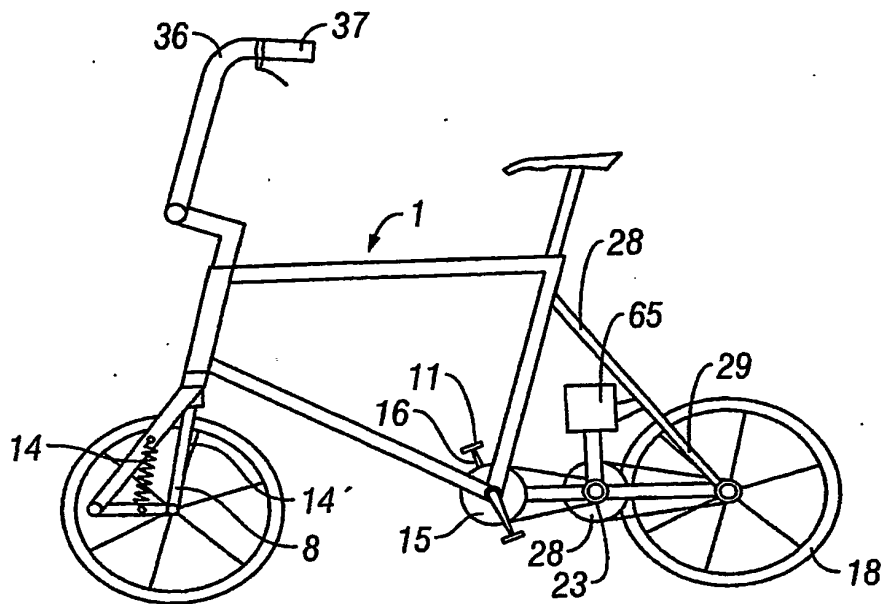


FIG. 5

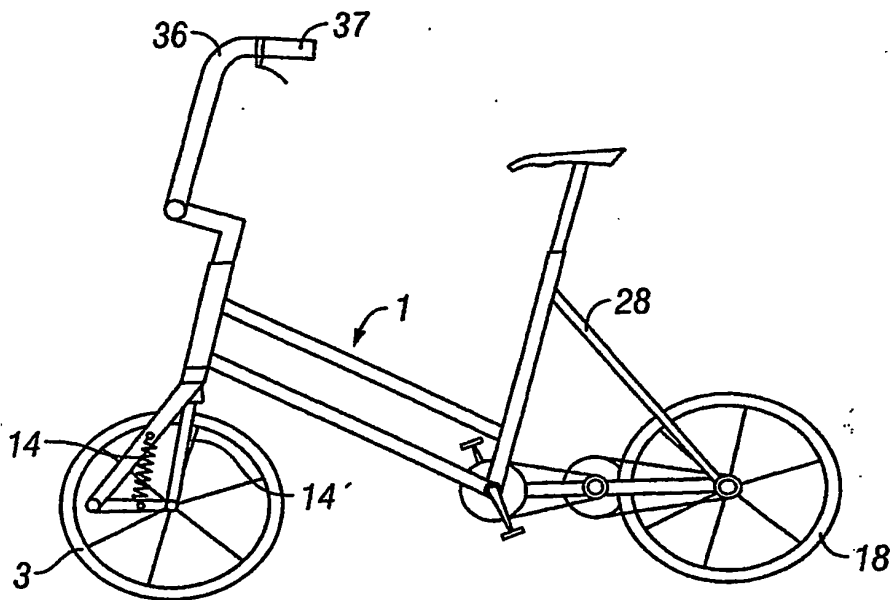


FIG. 6

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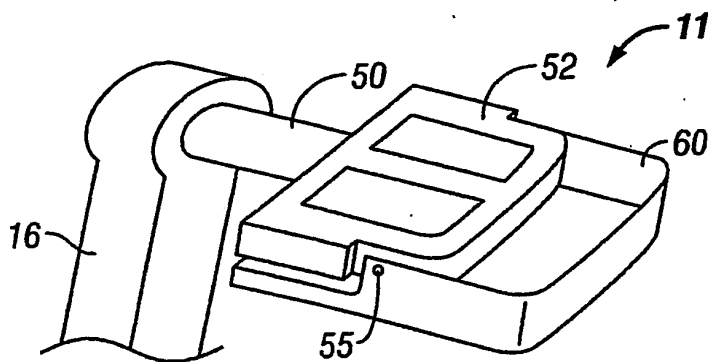


FIG. 7

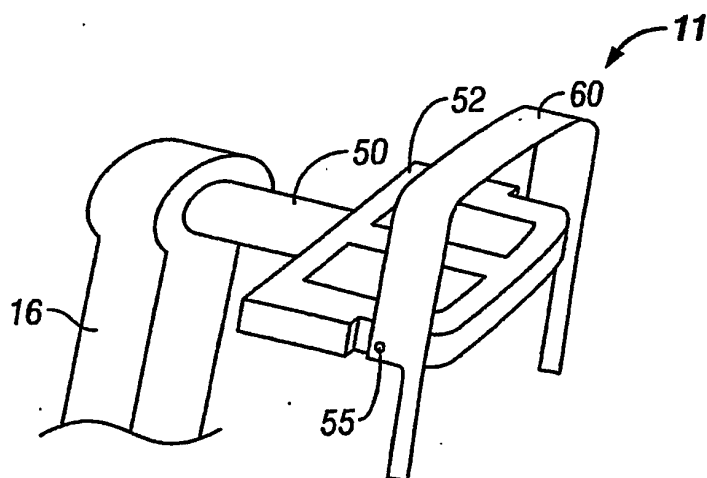


FIG. 8

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